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Bremsstrahlung in the gravitational field of a global monopole

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Abstract

We investigate the radiation emitted by a uniformly moving charged scalar particle in the spacetime of a point-like global monopole. We calculate the total energy radiated by the particle and the corresponding spectrum for a small solid angle deficit. We show that the radiated energy is proportional to the cube of the velocity of the particle and to the cube of the Lorentz factor, in the non-relativistic and ultra-relativistic cases, respectively.

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